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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,792

07/23/2003

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EXAMINER

WILLIAMS, DON J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/625,792	Applicant(s) MANDRO ET AL.	
	Examiner DON WILLIAMS	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the references in fig. 1 to fig. 4 have been manually written.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 & 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (5,792,117) in view of Brown (6,113,578).

As to claim 1, Brown discloses (fig. 1) a plunger rod (37) coupled to the piston bearing (35), an encoded pattern of encoding features (40), the spacing of the encoding features (40) from one another defining spaces between such that any two adjacent spaces form a unique sequence, and that measurable light may be transmitted through the sides of the barrel (50), (column 4, lines 1, 22). The mere indication of measurable

light may be transmitted is indicative of a light source for illuminating the encoded pattern (40). Brown also discloses (fig. 2) a light sensor (28) for measuring color (C) of marking (40) and producing an analog measurement of the color which is indicative of a detector array for detecting light from the illuminated encoded pattern (40) and generating a detector signal, (column 4, lines 51-57). Brown further discloses a processor (30) is programmed to calculate the dose of agent (34) in barrel (50) from the digital measurement of color (C), (column 5, lines 1-10). This logic is indicative of a characteristic of the reservoir other than a displacement of the plunger rod. Brown is silent of explicitly disclosing a light source for illuminating the encoded pattern and a processor for explicitly determining a displacement of the plunger rod. Brown of (6,113,578) patent discloses (fig. 4) light emitted by the light source is reflected by marking (491) that is located longitudinally along the plunger (490) back into the detector, (fig. 1B, column 6, lines 35-50, column 8, lines 40-50). This logic is indicative of the relative position of the plunger and the quantity of liquid which is a characteristic of the reservoir. It would have been obvious for one of ordinary skill in the art to modify Brown in view of Brown in order to incorporate the light source longitudinally along the plunger rod to perform optical measurements corresponding to the displacement of the plunger rod and the liquid amount from the barrel of the syringe resulting in identifying a characteristic of the reservoir.

As to claim 2, Brown discloses (fig. 1) the encoding features (40) are regions of modulated optical transmission through the plunger rod (37), (column 4, lines 1-20).

As to claim 3, Brown (6,113,578) discloses (fig. 4) the encoding features (491) are regions of modulated optical reflection by the plunger rod (490), (column 8, lines 40-51).

As to claim 4, Brown discloses (fig. 1) the encoding features (40) permitting transmission of light through the plunger rod (37) constitutes a plurality of slots of enhanced transmission, (column 4, lines 1-20).

As to claim 5, Brown discloses (fig. 1) each slot (40) is displaced from each pair of nearest neighbors by a unique combination of distances, (column 4, lines 1-20).

As to claim 6, Brown discloses (fig. 1) a combination of any two adjacent spaces between slots (40) uniquely identifies the characteristics of the reservoir (50), (column 4, lines 1-20).

As to claim 8, Brown (6,113,578) discloses characteristic of the reservoir (86) is a content of the reservoir (86) to which the plunger rod (90) pertains, (column 7, lines 1-5).

As to claim 9, Brown (6, 133,578) discloses barrel (86) has side walls transparent at a wavelength of light emitted by a light source constitutes characteristic of the reservoir indicative of a diameter and a wall composition material, (column 7, lines 1-6).

As to claim 10, Brown (6,113,578) discloses (fig. 2C) light source (100) comprises a plurality of light emitters (100a-100f) on a side of the plunger (90) longitudinally spaced apart at regular intervals corresponding to detecting elements (102a-102f) on the opposite side of the plunger (90), (column 7, lines 44-52). The longitudinally arrangement of the light emitting diodes along the plunger rod form a light

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diffusion effect for illuminating a region of the plunger rod (90) with substantially uniform optical intensity.

As to claim 11, Brown discloses (fig. 1) the encoded pattern of encoding features (40) repeats along the plunger rod (37), (column 4, lines 12-22).

As to claims 12, 17, Brown discloses a reservoir (50) having a cylindrical inner volume for containing a substance (agent, liquid), a plunger rod (37) for impelling a piston (35) along a linear axis of motion with the inner volume (agent, liquid) of the reservoir (50) in order to displace and dispense a measured quantity of the substance (agent, liquid), an encoding pattern of encoding features (40) disposed along the plunger rod (37) in a direction parallel to the linear axis of motion of the piston (35), the spacing of the encoding features (40) from one another defining spaces between such that any two adjacent spaces form a unique sequence, and that measurable light may be transmitted through the sides of the barrel (50), (column 4, lines 1, 22). The mere indication of measurable light may be transmitted is indicative of a light source for illuminating the encoded pattern (40). Brown also discloses (fig. 2) a light sensor (28) for measuring color (C) of marking (40) and producing an analog measurement of the color which is indicative of a detector array for detecting light from the illuminated encoded pattern (40) and generating a detector signal, (column 4, lines 51-57). Brown further discloses a processor (30) is programmed to calculate the dose of agent (34) in barrel (50) from the digital measurement of color (C), (column 5, lines 1-10). This logic is indicative of a characteristic of the reservoir other than a displacement of the plunger rod. Brown is silent of explicitly disclosing a light source for illuminating the encoded

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pattern and a processor for explicitly determining a displacement of the plunger rod. Brown of (6,113,578) patent discloses (fig. 4) light emitted by the light source is reflected by marking (491) that is located longitudinally along the plunger (490) back into the detector, (fig. 1B, column 6, lines 35-50, column 8, lines 40-50). This logic is indicative of the relative position of the plunger and the quantity of liquid which corresponds to a characteristic of the reservoir. It would have been obvious for one of ordinary skill in the art to modify Brown in view of Brown in order to incorporate the light source longitudinally along the plunger rod to perform optical measurements corresponding to the displacement of the plunger rod and the liquid amount from the barrel of the syringe resulting in identifying a characteristic of the reservoir.

As to claim 13, Brown discloses (fig. 1) the encoding features (40) are regions of modulated optical transmission through the plunger rod (37), (column 4, lines 1-20).

As to claim 14, Brown discloses (fig. 1) the encoding features (40) permitting transmission of light through the plunger rod (37) constitutes a plurality of slots of enhanced transmission, (column 4, lines 1-20).

As to claim 15, Brown discloses (fig. 1) each slot (40) is displaced from each pair of nearest neighbors by a unique combination of distances, (column 4, lines 1-20).

As to claim 16, Brown discloses (fig. 1) having more than one reservoir version (32, 50), wherein the encoding pattern (40) is uniquely determinative of a version of the reservoir (50), (column 4, lines 1-12).

As to claim 18, Brown (6,113,578) discloses (fig. 4) detecting light further includes acquiring an image of the illuminated encoding features (491), (column 8, lines 45-50).

As to claim 19, Brown (6,113,578) discloses determining positions of peaks (light intensity) of light transmission through the encoding features (491), (column 8, lines 45-50).

As to claim 20, Brown (6,113,578) discloses storing (38) each successive detector array (32) value (optical response) in each of successive groups of n software array elements (32), (column 5, lines 50-55).

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. Claim 7 has been cancelled.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DON WILLIAMS whose telephone number is (571)272-8538. The examiner can normally be reached on 8:30a.m. to 5:30a.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Don Williams/
Examiner, Art Unit 2878

/Georgia Y Epps/
Supervisory Patent Examiner, Art Unit 2878